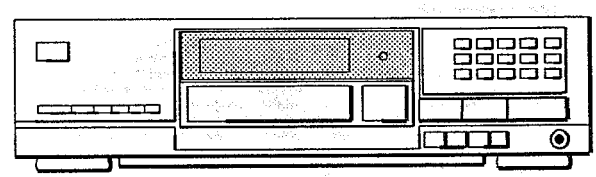
S/M Code No.90 – 059 DATE OF ISSUE 9/1990 – T

AIWA®

XC-333

SERVICE MANUAL



COMPACT DISC PLAYER

• BASIC CD MECHANISM : KSL – 150AFM • TYPE: H,U,E,K

SPECIFICATIONS

Type:	Compact disc digital audio system
Disc:	Compact disc
Scanning method:	Non contact optical scanner (semiconductor laser application)
Laser:	Semiconductor laser (λ = 780 nm)
Rotation speed:	Approx. 500 rpm–200 rpm (CLV)
Error correction:	Cross Interleave, Reed-Solomon Code
No. of channels:	2 channels
D-A conversion:	16 bit linear dual
Frequency response:	4 Hz–20 kHz ±0.5 dB
Harmonic distortion:	0.05% (1 kHz)
Dynamic range:	90 dB
Channel separation:	100 dB (1 kHz)
S/N Ratio:	96 dB (A)
Wow/Flutter:	Unmeasurable
Outputs:	OUTPUT Phono jack Maximum output level: 2 V (10 k ohms) Load impedance: more than 10 k ohms PHONES Stereo phone jack Maximum output level: ≥5 mW Load impedance: 32 ohms

Power and miscellaneous

Power supply:	
XC-333H	AC 120V/220V/240V, 50/60 Hz
XC-333U	AC 120V, 60 Hz
XC-333E	AC 220V, 50/60 Hz
XC-333K	AC 240V, 50/60 Hz
Power consumption:	
XC-333H	8 W
XC-333 U, E, K	10 W
Dimensions:	430(W) × 115(H) × 352(D) mm
Weight:	Approx. 4.9 kg

- The specifications and appearance of this unit may be changed without prior notice to improve its performance or safety.
- Design and specifications are subject to change without notice.

AIWA Co., Ltd. Tokyo Japan

Printed in Japan

DISASSEMBLY INSTRUCTIONS

1. "Tray" Removal

1) Remove the " Cabinet, Steel".
2) • For AUTOMATIC operation
   Press the OPEN/CLOSE button to eject the "Tray".

   • For MANUAL operation
   Insert a flat-head screwdriver into the hole at the bottom of the set and turn the cam in the direction of the arrow to eject the "Tray". (See Figure-1)
3) Loosen 2 screws Ⓐ and pull out the "Tray" toward you. (See Figure-2)

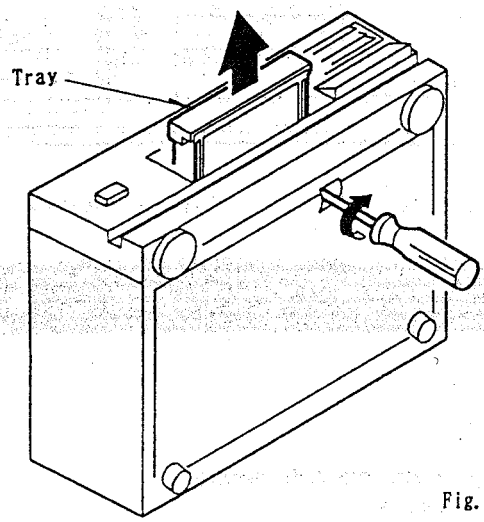


Fig.-1

2. "CD Mechanism" Removal

1) Loosen 2 screws Ⓐ and remove the "Tray", remove 3 screws Ⓑ and remove "CD Mechanism". (See Figure-2)

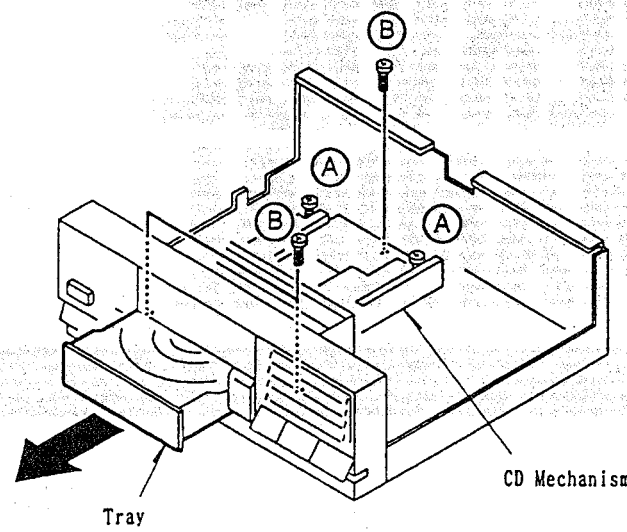


Fig.-2

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entrainer une dangereuse exposition aux radiations.

"Varoitus! Suojakoteloa ei saa avata. Laite sisältää laserdiodin, joka lahettää näkymätöntä silmille vaarallista lasersäteilyä."

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

CLASS-1
LASER-PRODUCT

ADVARSEL!

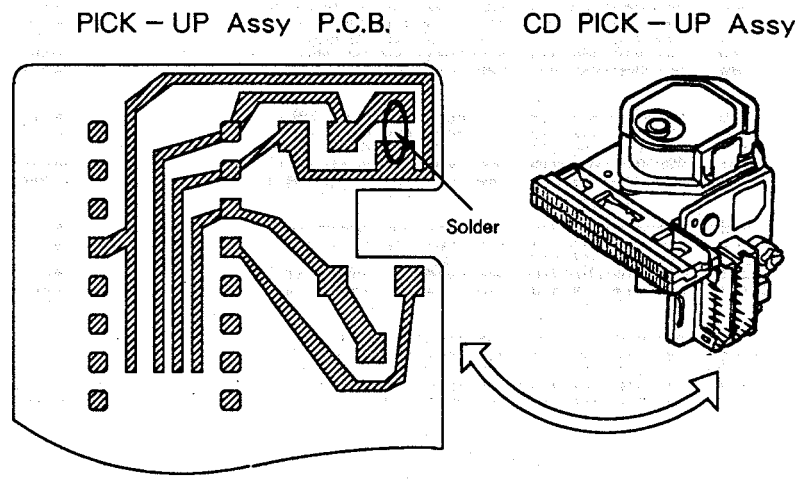
Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

"Denna apparat innehåller laserkomponent som avger laserstrålning som överskrider gränsen för laserklass 1."

Precaution to replace Optical block (KSS – 150A)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in figure below.



ELECTRICAL MAIN PARTS LIST

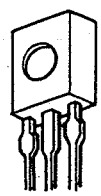
REF. NO.	PART NO.	DESCRIPTION
===IC===		
	87-001-440-019	IC, BA15218N
	87-001-184-010	IC, CXA1081S
	87-001-400-010	IC, CXA1082S
	87-020-795-010	IC, CXD1135Q
	87-020-796-010	IC, CXK5816M
	89-AC2-608-010	IC, CXP50112-104Q
	87-001-196-019	IC, ICPN10
	87-020-840-019	IC, ICPN20
	87-020-758-019	IC, NJM2068 SD
	87-020-908-019	IC, NJM4066BD
	87-027-235-019	IC, NJM4558D
	87-027-939-019	IC, NJM4558S
	87-020-903-019	IC, NJM7805FA
	87-001-169-010	IC, STA341M
	87-001-790-010	IC, UNIT SBX1610-52(REMOTE SENSOR)
	87-001-866-010	IC, UPD6376CX
===TRANSISTOR===		
	89-213-293-019	TRANSISTOR, 2SB1329R
	89-213-321-019	TRANSISTOR, 2SB1332R
	89-213-750-019	TRANSISTOR, 2SB1375
	89-318-154-019	TRANSISTOR, 2SC1815Y
	89-420-053-019	TRANSISTOR, 2SD2005R
	87-026-500-019	TRANSISTOR, 2SD2144S UV
	87-026-366-019	TRANSISTOR, RN1204
	87-026-377-019	TRANSISTOR, RN2204
===DIODE===		
	87-027-376-019	DIODE 1B4B41
	87-020-110-019	DIODE 1SS177
	87-020-992-010	DIODE MPG06D-L
	87-027-626-019	DIODE S5277D
	87-001-906-019	DIODE, ZENER HZ-33-1L
	87-027-301-019	DIODE, ZENER HZ3A1
	87-027-393-019	DIODE, ZENER HZ4C2
	87-027-555-019	DIODE, ZENER HZ5C2
===MAIN CIRCUIT BOARD SECTION===		
C101	*87-010-124-019	CAP, ELECT 4700-16
C102	*87-015-997-019	CAP, ELECT 2200-16 SME
C103	*87-010-384-019	CAP, ELECT 100-25 SME
C104	*87-010-410-019	CAP, ELECT 330-50
C105	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C106	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C107	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C108	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C109	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C110	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C201	*87-010-405-019	CAP, ELECT 10-50 SME
C202	*87-010-248-019	CAP, ELECT 220-10 SME
C203	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C205	*87-010-408-019	CAP, ELECT 47-50 SME
C301	*87-010-265-019	CAP, ELECT 33-16 SME
C302	*87-018-119-019	CAP, CERA-SOL 100P-50 B
C303	*87-018-150-019	CAP, CERA-SOL 18P-50 CH
C304	*87-018-150-019	CAP, CERA-SOL 18P-50 CH
C305	*87-018-115-019	CAP, CERA-SOL 47P-50 SL
C306	*87-018-115-019	CAP, CERA-SOL 47P-50 SL
C307	*87-018-115-019	CAP, CERA-SOL 47P-50 SL
C308	*87-018-115-019	CAP, CERA-SOL 47P-50 SL
C309	*87-018-115-019	CAP, CERA-SOL 47P-50 SL
C311	*87-010-400-019	CAP, ELECT 0.47-50 SME
C312	*87-010-401-019	CAP, ELECT 1-50 SME
C313	*87-010-404-019	CAP, ELECT 4.7-50 SME
C314	*87-010-265-019	CAP, ELECT 33-16 SME
C315	*87-010-265-019	CAP, ELECT 33-16 SME
C316	*87-018-131-019	CAP, CERA-SOL 1000P-50 B
C317	*87-010-265-019	CAP, ELECT 33-16 SME
C318	*87-010-265-019	CAP, ELECT 33-16 SME
C319	*87-010-265-019	CAP, ELECT 33-16 SME
C320	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C321	*87-010-403-019	CAP, ELECT 3.3-50 SME
C323	*87-010-404-019	CAP, ELECT 4.7-50 SME
C326	*87-018-132-019	CAP, CERA-SOL 2200P-16 X
C327	*87-010-545-019	CAP, ELECT 0.22-50 SME
C328	*87-010-265-019	CAP, ELECT 33-16 SME
C330	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C331	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C332	*87-010-265-019	CAP, ELECT 33-16 SME
C333	*87-010-265-019	CAP, ELECT 33-16 SME
C335	*87-010-405-019	CAP, ELECT 10-50 SME
C337	*87-010-263-019	CAP, ELECT 100-10
C338	*87-018-131-019	CAP, CERA-SOL 1000P-50 B
C339	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y

REF. NO.	PART NO.	DESCRIPTION
C340	*87-018-103-019	CAP, CERA-SOL 8.2P-50 SL
C341	*87-018-132-019	CAP, CERA-SOL 2200P-16 X
C343	*87-010-265-019	CAP, ELECT 33-16 SME
C344	*87-010-265-019	CAP, ELECT 33-16 SME
C345	*87-010-400-019	CAP, ELECT 0.47-50 SME
C346	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C347	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C348	*87-018-133-019	CAP, CERA-SOL 4700P-16 X
C349	*87-018-202-019	CAP, CERA-SOL 6800P-16 X
C351	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C352	*87-018-202-019	CAP, CERA-SOL 6800P-16 X
C353	*87-018-133-019	CAP, CERA-SOL 4700P-16 X
C354	*87-010-221-019	CAP, ELECT 470-10
C356	*87-018-127-019	CAP, CERA-SOL 470P-50 B
C405	*87-010-374-019	CAP, ELECT 47-10
C406	*87-010-374-019	CAP, ELECT 47-10
C407	*87-018-119-019	CAP, CERA-SOL 100P-50 B
C408	*87-018-119-019	CAP, CERA-SOL 100P-50 B
C411	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C412	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C415	*87-014-047-019	CAP, PP 390P-100 J
C416	*87-014-047-019	CAP, PP 390P-100 J
C417	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C418	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C421	*87-018-131-019	CAP, CERA-SOL 1000P-50 B
C422	*87-018-131-019	CAP, CERA-SOL 1000P-50 B
C423	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C424	*87-010-265-019	CAP, ELECT 33-16 SME
C425	*87-018-128-019	CAP, CERA-SOL 560P-50 B
C426	*87-010-374-019	CAP, ELECT 47-10
C427	*87-010-374-019	CAP, ELECT 47-10
C428	*87-010-374-019	CAP, ELECT 47-10
C429	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C430	*87-010-374-019	CAP, ELECT 47-10
C431	*87-010-265-019	CAP, ELECT 33-16 SME
C432	*87-010-265-019	CAP, ELECT 33-16 SME
C433	*87-010-265-019	CAP, ELECT 33-16 SME
C434	*87-010-265-019	CAP, ELECT 33-16 SME
C435	*87-010-265-019	CAP, ELECT 33-16 SME
C436	*87-010-265-019	CAP, ELECT 33-16 SME
C437	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C438	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C439	*87-010-265-019	CAP, ELECT 33-16 SME
C440	*87-010-265-019	CAP, ELECT 33-16 SME
C441	*87-010-374-019	CAP, ELECT 47-10
C442	*87-010-374-019	CAP, ELECT 47-10
C445	*87-018-125-019	CAP, CERA-SOL 330P-50 B
C446	*87-018-125-019	CAP, CERA-SOL 330P-50 B
C501	*87-018-127-019	CAP, CERA-SOL 470P-50 B
C502	*87-018-127-019	CAP, CERA-SOL 470P-50 B
C506	*87-010-265-019	CAP, ELECT 33-16 SME
C507	*87-010-265-019	CAP, ELECT 33-16 SME
C508	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C509	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
EM301	*87-008-372-019	FILTER, EMI BL OIRNI
EM401	*87-008-372-019	FILTER, EMI BL OIRNI
J401	87-009-052-019	JACK PIN(OUTPUT)
L301	*87-003-147-019	COIL 22UH
SFR301	*87-024-168-019	SFR 1K DIA6 V
SFR302	*87-024-173-019	SFR 22K DIA6 V
SFR303	*87-024-173-019	SFR 22K DIA6 V
SFR304	*87-024-173-019	SFR 22K DIA6 V
SFR305	*87-024-173-019	SFR 22K DIA6 V
X301	84-733-617-019	CRYSTAL 16.9344MHZ
		===FRONT-1 CIRCUIT BOARD SECTION===
FL701	89-AC3-609-010	FL, FV401G (FLUORESCENT MULTI MODE DISPLAY)

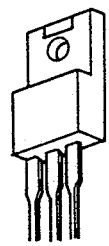
REF. NO.	PART NO.	DESCRIPTION
SW701	87-036-142-019	TACT SW(1)
SW702	87-036-142-019	TACT SW(2)
SW703	87-036-142-019	TACT SW(3)
SW704	87-036-142-019	TACT SW(4)
SW705	87-036-142-019	TACT SW(5)
SW706	87-036-142-019	TACT SW(6)
SW707	87-036-142-019	TACT SW(7)
SW708	87-036-142-019	TACT SW(8)
SW709	87-036-142-019	TACT SW(9)
SW710	87-036-142-019	TACT SW(10)
SW711	87-036-142-019	TACT SW(>10)
SW712	87-036-142-019	TACT SW(PRGM)
SW713	87-036-142-019	TACT SW(CHECK)
SW714	87-036-142-019	TACT SW(DELETE)
SW715	87-036-142-019	TACT SW(AC)
SW716	87-036-142-019	TACT SW(▶ PLAY)
SW717	87-036-142-019	TACT SW(❚❚ PAUSE)
SW718	87-036-142-019	TACT SW(■ STOP)
SW719	87-036-142-019	TACT SW(▲ OPEN/CLOSE)
SW720	87-036-142-019	TACT SW(⏮ SKIP)
SW721	87-036-142-019	TACT SW(⏭ SKIP)
SW722	87-036-142-019	TACT SW(◀◀ SEARCH)
SW723	87-036-142-019	TACT SW(▶▶ SEARCH)
		===FRONT-2 CIRCUIT BOARD SECTION===
SW724	87-036-142-019	TACT SW(TIME)
SW725	87-036-142-019	TACT SW(BLANK)
SW726	87-036-142-019	TACT SW(RANDOM)
SW727	87-036-142-019	TACT SW(← INDEX)
SW728	87-036-142-019	TACT SW(→ INDEX)
SW729	87-036-142-019	TACT SW(REPEAT 1/ALL)
		===HP CIRCUIT BOARD SECTION===
C503	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C504	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C505	*87-018-134-019	CAP, CERA-SOL 0.01-16 Y
EM501	*87-008-372-019	FILTER, EMI BL OIRNI
EM502	*87-008-372-019	FILTER, EMI BL OIRNI
EM503	*87-008-372-019	FILTER, EMI BL OIRNI
J501	87-009-203-019	JACK 6.3 ST BLK, GLD(PHONES)
		===AC SW CIRCUIT BOARD SECTION===
⚠C601	*87-019-113-019	CAP, CERA-SOL SG 0.0022E
⚠SW601	87-036-015-019	PUSH SW(POWER)
		===MOTOR-1 CIRCUIT BOARD SECTION===
※PCB-F	91-625-848-110	MOTOR-1 C.B(RF-310T-11400)
※PCB-F	91-628-263-110	MOTOR-1 C.B(MDN-4RA3NTAS/4RA3ETA)
※M1	9X-264-077-010	MOTOR GEAR ASSY(SLED) (RF-310T-11400)
※M1	9X-264-134-410	MOTOR GEAR ASSY(SLED)(MDN-4RA3ETA)
※M2	9X-264-133-710	MOTOR ASSY(W/CHASSIS, T.T)(SPINDLE) (RF-310T-11400)
※M2	9X-264-134-810	MOTOR ASSY(W/CHASSIS, T.T)(SPINDLE) (MDN-4RA3NTAS)
SW1	91-570-822-210	LEAF SW(INSIDE LIMIT)
		===MOTOR-2 CIRCUIT BOARD SECTION===
PCB-G	91-624-793-210	MOTOR-2 C.B
M3	9X-264-133-610	MOTOR ASSY(LOADING)
		===MISCELLANEOUS===
	98-848-046-510	PICK UP KSS-150A(H)(RP)
⚠	*82-187-797-019	AC CORD <E>(H)
⚠	*87-034-583-019	AC CORD ASSY U (U)
⚠	*87-034-781-018	AC CORD<E>(E)
⚠	*87-034-592-018	AC CORD<K>(K)
⚠	*87-085-185-010	BUSHING, AC CORD E(H, E, K)

REF. NO.	PART NO.	DESCRIPTION
⚠	*87-085-184-010	BUSHING, AC CORD D(U)
FP1	*89-AC1-641-019	FLAT CABLE 32-1.25 180
⚠PT101	89-AC2-605-019	POWER TRANSFORMER H(H)
⚠PT101	89-AC2-602-019	POWER TRANSFORMER UC(U)
⚠PT101	89-AC2-617-018	POWER TRANSFORMER E, Z-G(E)
⚠PT101	89-AC2-604-119	POWER TRANSFORMER K(K)
SW2	91-571-312-110	LEAF SW(OPEN/CLOSE)
⚠SW602	87-036-162-019	SW ROTARY(AC VOLTAGE)(H)

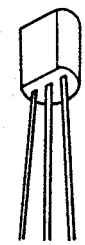
※Caution
Two Types of the spindle (DISC) motor and sled motor are used, but they are not compatible.
Check the part numbers (MDN ····, RF ····) on the labels of motors and replace motors with the same one.



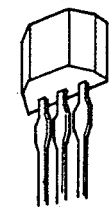
2SB1329
2SB1332
2SD2005



2SB1375



2SC1815



2SD2144
RN1204
RN2204

IC DESCRIPTION

For the descriptions of the pins shown below, see the XC-002 service manual.		
	XC-333	XC-002
①	IC, CXA1082S	IC, CXA1082S
②	IC, CXA1081S	IC, CXA1081S

IC, CXP50112-104Q

Pin No.	Pin Name	I/O	Description
2~11	SEG B~K	O	Segment data output for fluorescent displays.
1, 12~16	NC	—	Reserved.
17~28	G12~G1	O	Digit data output and key matrix scan for fluorescent displays.
29	SCOR	I	Subcode sync S0 + S1 input; connected to SCOR of CXD1135Q.
30	NC	—	Reserved.
31	TEX	—	Not used. Connected to VDD.
32	$\overline{RST}$	I	Reset operations conducted in accordance with external signal.
33	——	—	Not used. Connected to VDD.

Pin No.	Pin Name	I/O	Description
34	VDD	—	+5 V power supply.
35～38	KEY0～3	I	Key matrix data input.
39	NC	—	Reserved.
40	PK/$\overline{\text{RMC}}$	O	Output showing the unit is in peak search mode. Reserved.
41	$\overline{\text{ADINT}}$	O	A/D converter block INITIAL and AD START pulse output. Reserved.
42	$\overline{\text{LDON}}$	O	Laser diode ON/OFF switchover output. "L" when ON. Connected to LDON of the RF amplifier.
43	WDCK	I	88.2 kHz clock input for peak search mode. Input from LRCK of CXD1135Q.
44	SQCK	O	Subcode Q read clock output. Connected to SQCK of CXD1135Q.
45	NC	—	Reserved.
46	SUBQ	I	Subcode Q serial input; connected to SUBQ of CXD1135Q.
47	COMP	I	Not used. Connected to GND.
48	FOK	I	Focus OK detection input; "H" when OK. Connected to FOK of the RF amplifier.
49	$\overline{\text{SW CLOSE}}$	I	Tray close switch ("L" when closed).
50	$\overline{\text{SW OPEN}}$	I	Tray open switch ("L" when open).
51	OPEN	O	Output to open the tray ("H" during open operations).
52	CLOSE	O	Output to close the tray ("H" during close operations).
53	$\overline{\text{DFLT}}$	O	Digital filter control latch output. Reserved.
54	$\overline{\text{A MUTE}}$	O	Analog mute output; "L" during mute.
55	MUTG	O	Digital mute output; "H" during mute. Connected to MUTG of CXD1135Q.
56	$\overline{\text{XRST}}$	O	System reset signal output from the microcomputer.
57	DATA	O	Servo control data output; connected to DATA of CXA1082 and CXD1135Q.
58	XLT	O	CXA1082 and CXD1135Q serial data latch signal output.
59	CLK	O	CXA1082 and CXD1135Q serial data communication clock output.
60	CAL $\overline{\text{PWM}}$	O	CAL output control signal. Reserved.
61	——	—	Not used. Connected to GND.
62	RMC	I	Remote controller data serial input.
63	SENS	I	Sense input; connected to SENS of CXA1082 and CXD1135Q.
64	GFS	I	Frame sync locked status input; "H" when locked. Connected to GFS of CXD1135Q.
65～66	—	—	Not used. Connected to GND.
67～70	NC	—	Reserved.
71	VSS	—	GND
72	XTAL	—	Reserved.
73	——	—	Not used. Connected to VDD.
74	EXTAL	I	Master clock (of this IC) input; connected to C4M of CXD1135Q.
75	VREF	—	+5 V power supply.
76	VP	I	Common terminal between the internal pull-down resistors of SEG and G. Connected to -33V.
77～79	CAL0～2	O	Calibration output. Reserved.
80	EMP	O	Emphasis on/off select output. "H" when ON.

IC, CXD1135Q

Pin No.	Pin Name	I/O	Description
1	FSW	O	Output to switch the time constant of the spindle motor output filter.
2	MON	O	Spindle motor on/off control output.
3	MDP	O	Spindle motor drive output. Coarse control in the CLV.S mode and phase control in the CLV.P mode.
4	MDS	O	Spindle motor drive output. Speed control in the CLV.S mode.
5	EFM	I	Inputs an EFM signal from the RF amplifier.
6	ASY	O	Output to control the slice level of the EFM signal.
7	LOCK	O	The GFS signal is sampled by the WFCK/16. When the GFS signal is "H", this pin outputs "H", and when the signal is "L" 8 times continuously, it outputs "L".
8	VCOO	O	VCO output. When this is locked to the EFM signal. f = 8.6436MHz
9	VCOI	I	VCO input.
10	TEST	—	Connected to GND. (0V)
11	PDO	O	Phase comparison output between the EFM signal and VCO/2.
12	VSS	—	GND (0V)
13	CLK	I	Inputs a clock signal for the serial data transfer from CPU. Latches data at the rise of the clock signal.
14	XLT	I	Latch input from CPU. Latches 8-bit shift register data (serial data from CUP) to each register.
15	DATA	I	Inputs serial data from CPU.
16	XRST	I	System reset input. The system is reset at "L" input.
17	CNIN	I	Tracking pulse input.
18	SENS	O	Outputs the internal state according to the address.
19	MUTG	I	Muting input. When the ATTM in the internal register is "L", the system is in the normal state if the MUTG is "L" and the sound is muted if the MUTG is "H".
20	CRCF	O	Outputs the CRC checking result of sub-code Q. (Reserved)
21	EXCK	I	Clock input for the sub-code serial output. (Connected to GND)
22	SBSO	O	Sub-code serial output. (Reserved)
23	SUBQ	O	Sub-code Q output.
24	SCOR	O	Sub-code sync S0 + S1 output.
25	SQCK	I/O	Clock signal for reading of sub-code Q.
26	SQEX	I	SQCK select input. Connected to VDD.
27	$\overline{\text{WFCK}}$	O	Digital audio interface output. (Reserved)
28	GFS	O	Display output of the frame sync locking state. Goes "H" when locked.
29 ∫ 32	DB08 ∫ DB05	I/O	RAM
33	VDD	—	Power supply (+5V)
34～37	DB04～DB01	I/O	RAM
38～48	RA01～RA11	O	
49	RAWE	O	
50	RACS	O	

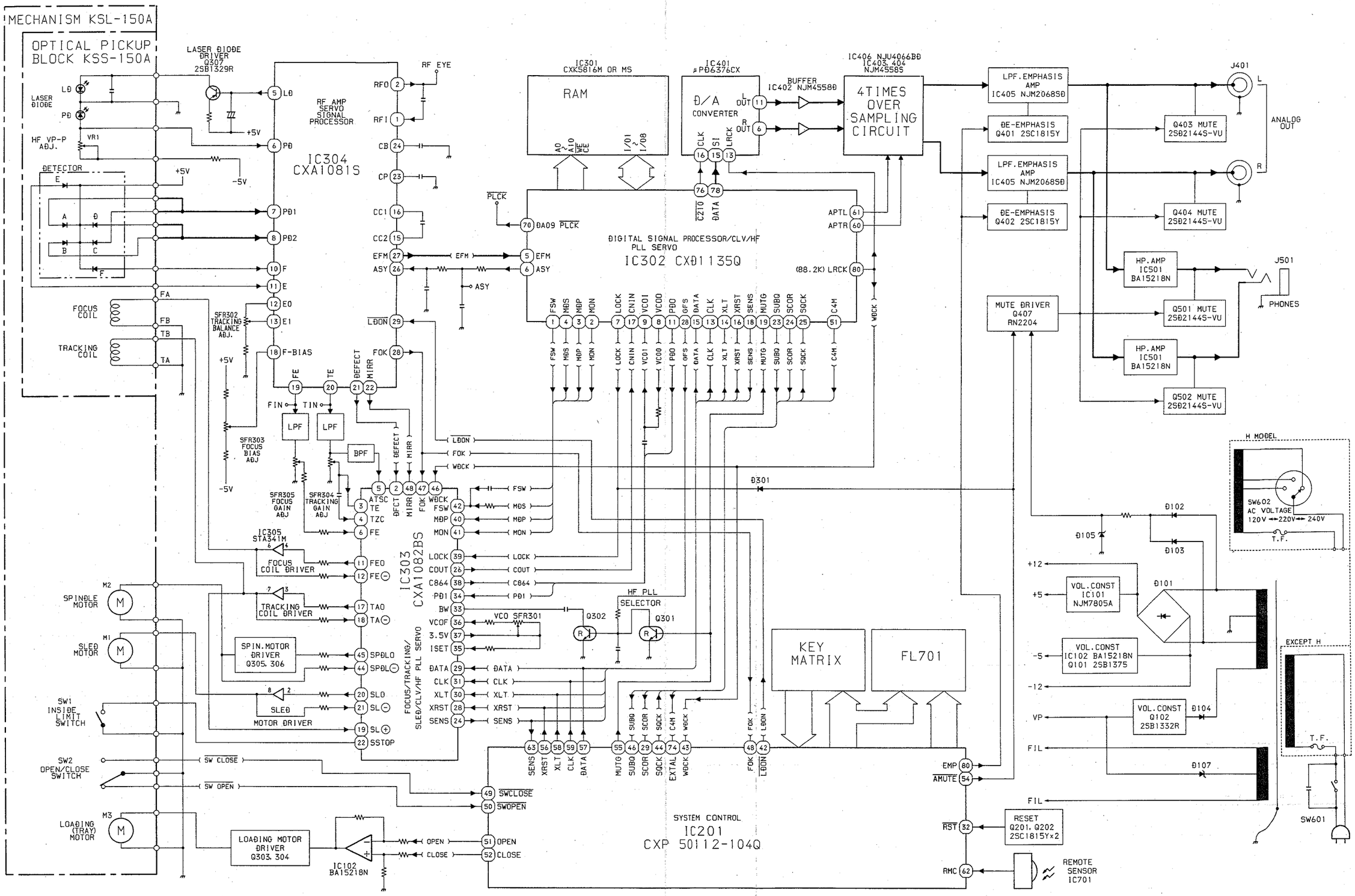
Pin No.	Pin Name	I/O	Description
51	C4M	O	1/2 division output of the crystal oscillator. f = 4.2336MHz
52	VSS	—	GND (0V)
53	XTAI	I	Crystal oscillator input. f = 16.9344MHz
54	XTAO	O	Crystal oscillator output. f = 16.9344MHz
55	MD1	I	Mode select input 1 used at "L" } Used in the mode with the clock frequency 16.9344MHz, the digital output OFF. the digital filter ON. (Connected to GND.)
56	MD2	I	Mode select input 2 used at "H" }
57	MD3	I	Mode select input 3 used at "L" }
58	SLOB	I	Input to switch the code of the audio data output. "L" causes the 2 second complement output and "H" causes the offset binary output. (Connected to GND.)
59	PSSL	I	Input to switch the mode of the audio data output. "L" causes serial output and "H" causes parallel output. (Connected to GND.)
60	APTR	O	Aperture correction control output. 44.1kHz with the filter OFF. ("H" during R ch.)
61	APTL	O	Aperture correction control output. 44.1kHz with the filter OFF. ("H" during L ch.)
62	DA01 (C1F1)	O	(DA01(LSB of parallel audio data) output with PSSL = "H".) C1F1 output with PSSL = "L". (Reserved)
63	DA02 (C1F2)	O	(DA02 output with PSSL = "H".) C1F2 output with PSSL = "L". (Reserved)
64	DA03 (C2F1)	O	(DA03 output with PSSL = "H".) C2F1 output with PSSL = "L". (Reserved)
65	DA04 (C2F2)	O	(DA04 output with PSSL = "H".) C2F2 output with PSSL = "L". (Reserved)
66	DA05 (C2FL)	O	(DA05 output with PSSL = "H".) C2FL output with PSSL = "L". (Reserved)
67	DA06 (C2PO)	O	(DA06 output with PSSL = "H".) C2PO output with PSSL = "L". (Reserved)
68	DA07 (RFCK)	O	(DA07 output with PSSL = "H".) RFCK output with PSSL = "L". (Reserved)
69	DA08 (WFCK)	O	(DA08 output with PSSL = "H".) WFCK output with PSSL = "L". (Reserved)
70	DA09 ($\overline{\text{PLCK}}$)	O	(DA09 output with PSSL = "H".) $\overline{\text{PLCK}}$ output with PSSL = "L". (Note 1)
71	DA10 (VGFS)	O	(DA10 output with PSSL = "H".) VGFS output with PSSL = "L". (Reserved)
72	DA11 (GTOP)	O	(DA11 output with PSSL = "H".) GTOP output with PSSL = "L". (Reserved)
73	VDD	—	Power supply (+5V)
74	DA12 ($\overline{\text{RA0V}}$)	O	(DA12 output with PSSL = "H".) $\overline{\text{RA0V}}$ output with PSSL = "L". (Reserved)
75	DA13 (C4LR)	O	(DA13 output with PSSL = "H".) C4LR output with PSSL = "L". (Reserved)
76	DA14 (C210)	O	(DA14 output with PSSL = "H".) C210 output with PSSL = "L".
77	DA15 (C210)	O	(DA15 output with PSSL = "H".) C210 output with PSSL = "L". (Note 2) (Reserved)
78	DA16 (DATA)	O	(DA16(MSB of parallel audio data) output with PSSL = "H".) DATA output with PSSL = "L". (Note 3)
79	WDCK	O	Strobe signal output. 88.2kHz with the filter OFF. (Reserved)
80	LRCK	O	Strobe signal output. 44.1kHz with the filter OFF.

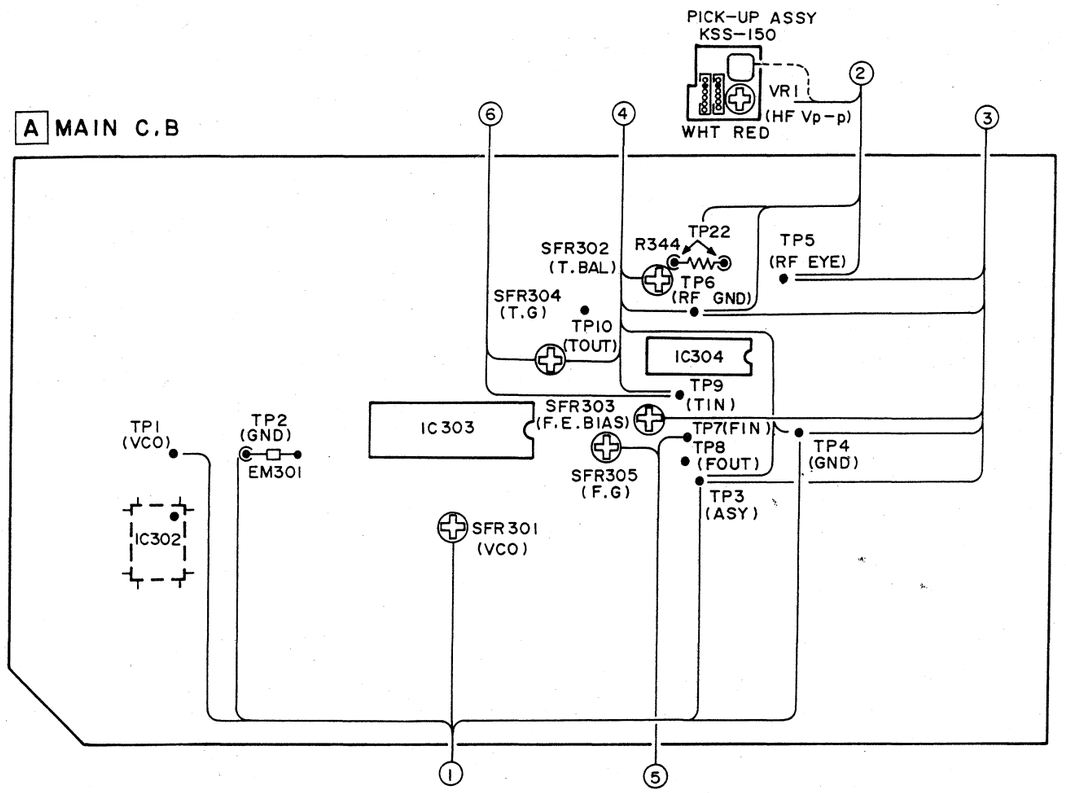
Note 1) $\overline{\text{PLCK}}$: VCO/2 output. When locked to the EFM signal, f = 4.3218MHz

Note 2) C210: Bit clock signal. f = 2.1168MHz

Note 3) DATA: Audio signal serial data output

BLOCK DIAGRAM

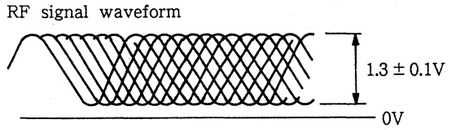




1. VCO Frequency Adjustment
   (1) Open the tray using the OPEN/CLOSE button.
   (2) Connect a frequency counter to TP1 (VCO), TP2 (EM301, GND).
   (3) Connect TP3 (ASY) to TP4 (GND).
   (4) Turn on the power switch.
   (5) Adjust SFR301 (VCO) so that the frequency counter reading is 4.5 ± 0.01MHz.
   (6) After adjustment, remove the grounding lead wire.

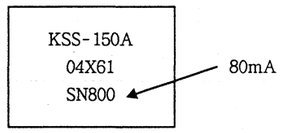
2. HF Vp-p Adjustment
   Make the HF Vp-p adjustment when replacing and repairing the optical block.
   1. Connect an oscilloscope to TP5 (RF), TP6 (RF GND).
   2. Turn on the power switch.
   3. Insert the disc YEDS-18 (YEDS-1) and press the ▶PLAY button.
   4. Adjust VR1 (APC) in pickup so that the waveform on the oscilloscope is as shown in the figure below.

RF signal waveform



VOLT/DIV : 0.5V
TIME/DIV : 500nS

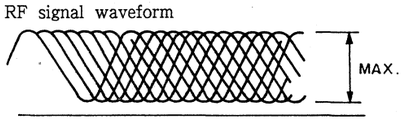
Note : Check laser current at TP22 (across R344 22Ω). The current must fall within ± 6mA of the value shown in the label on laser PU back.



$$\text{Laser current Iop} = \frac{\text{Voltage across R344}}{22\,\Omega}$$

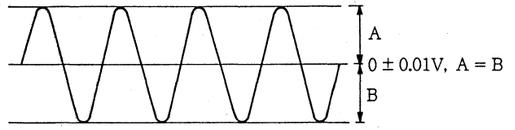
3. Focus Bias Adjustment
   Make the focus bias adjustment when replacing and repairing the optical block.
   (1) Connect an oscilloscope to TP5 (RF), TP6 (RF GND).
   (2) Connect TP3 (ASY) to TP4 (GND).
   (3) Turn on the power switch.
   (4) Insert the disc YEDS-18 (YEDS-1) TRACK No.2 and press the ▶PLAY button.
   (5) Adjust SFR303 (F. E. BIAS) to make clear and maximize the waveform amplitude on the oscilloscope. For clearer waveform, diamond shapes (◇) can be distinguished in the center of the waveform.
   (6) After adjustment, remove the grounding lead wire.

RF signal waveform



VOLT/DIV : 0.2V
TIME/DIV : 0.5 μS

4. Tracking Balance Adjustlment
   (1) Connect an oscilloscope to TP9 (TIN), TP6 (RF GND).
   (2) Connect TP3 (ASY) to TP4 (GND).
   (3) Connect center pin SFR304 (T. G) to ground.
   (4) Turn on the power switch.
   (5) Insert the disc YEDS-18 (YEDS-1) TRACK No.2 and press the ▶PLAY button.
   (6) Adjust SFR302 (T. BAL) so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
   (7) After adjustment, remove the grounding lead wire.



VOLT/DIV : 50mV
TIME/DIV : 0.2mS

5, 6. Focus/Tracking Gain Adjustment
A frequency response analyzer is necessary in order to perform this adjustment exactly.
However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore,do not perform this adjustment.
Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate. However, as these reciprocate, the adjustment is at the point where both are satisfied.

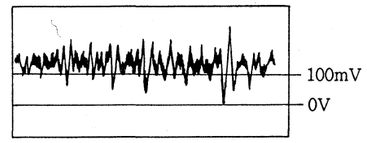
- When gain is raised, the noise when the 2-axis device operates inereases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

Symptoms \ Gain	Focus	Tracking
● The time until music starts becomes longer for STOP→▶ PLAY or automatic selection (⏮, ⏭ buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
● MUSIC does not start and disc continues to rotate for STOP→▶ PLAY or automatic selection (⏮, ⏭ buttons pressed.)	–	low
● Disc table opens shortly after STOP→▶ PLAY.	low or high	–
● Sound is interrupted during PLAY. Or time counter display stops progressing.	–	low
● More noise during 2-axis device operation.	high	high

The following is a simple adjustment method.

-Simple Adjutment-
Note : Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

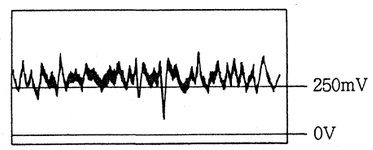
Procefure :
(1) Keep the set horizontal.
   If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.
(2) Insert a disc YEDS-18 (YEDS-1) TRACK No.2 and press the ▶PLAY button.
(3) Connect an oscilloscope to TP7 (FIN).
(4) Adjustment SFR305 (F. G) so that the waveform is as shown in the figure below.
   (focus gain adjustment)



VOLT/DIV : 0.1V
TIME/DIV : 2mS

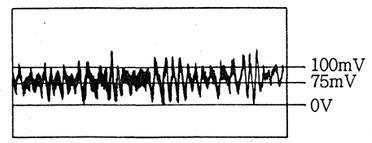
● Incorrest Examples (DC level changes more than on -adjusted waveform)

low focus gain



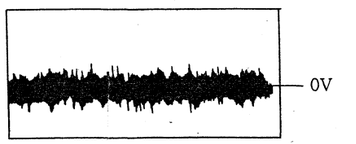
VOLT/DIV : 0.1V
TIME/DIV : 2mS

high focus gain



VOLT/DIV : 0.1V
TIME/DIV : 2mS

(5) Connect an oscilloscope to TP9 (TIN).
(6) Adjust SFR304 (T. G) so that the waveform is as shwon in the figure below.
   (tracking gain adjustment)



VOLT/DIV : 0.5V
TIME/DIV : 2mS

● Incorr

low tracking

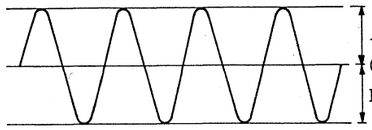
high tracking
(higher funda

PRACTIC

Output level

Frequency r

4. Tracking Balance Adjustlment
   (1) Connect an oscilloscope to TP9 (TIN), TP6 (RF GND).
   (2) Connect TP3 (ASY) to TP4 (GND).
   (3) Connect center pin SFR304 (T. G) to ground.
   (4) Turn on the power switch.
   (5) Insert the disc YEDS-18 (YEDS-1) TRACK No.2 and press the ▶PLAY button.
   (6) Adjust SFR302 (T. BAL) so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
   (7) After adjustment, remove the grounding lead wire.



VOLT/DIV : 50mV
TIME/DIV : 0.2mS

5, 6. Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.
However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore,do not perform this adjustment.
Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate. However, as these reciprocate, the adjustment is at the point where both are satisfied.

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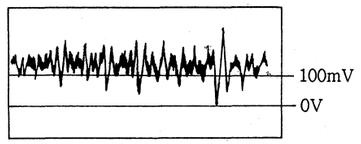
● MUSIC does not start and disc continues to rotate for STOP→▶ PLAY or automatic selection (⏮, ⏭ buttons pressed.)	–	low
● Disc table opens shortly after STOP→▶ PLAY.	low or high	–
● Sound is interrupted during PLAY. Or time counter display stops progressing.	–	low
● More noise during 2-axis device operation.	high	high

The following is a simple adjustment method.

-Simple Adjutment-

Note : Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

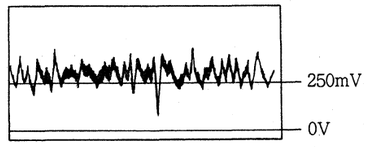
Procefure :
(1) Keep the set horizontal.
   If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.
(2) Insert a disc YEDS-18 (YEDS-1) TRACK No.2 and press the ▶PLAY button.
(3) Connect an oscilloscope to TP7 (FIN).
(4) Adjustment SFR305 (F. G) so that the waveform is as shown in the figure below.
   (focus gain adjustment)



VOLT/DIV : 0.1V
TIME/DIV : 2mS

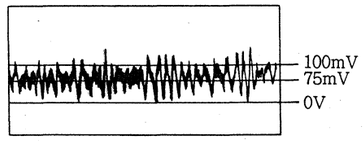
● Incorrest Examples (DC level changes more than on -adjusted waveform)

low focus gain



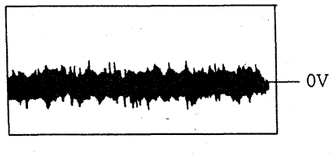
VOLT/DIV : 0.1V
TIME/DIV : 2mS

high focus gain



VOLT/DIV : 0.1V
TIME/DIV : 2mS

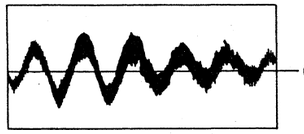
(5) Connect an oscilloscope to TP9 (TIN).
(6) Adjust SFR304 (T. G) so that the waveform is as shwon in the figure below.
   (tracking gain adjustment)



VOLT/DIV : 0.5V
TIME/DIV : 2mS

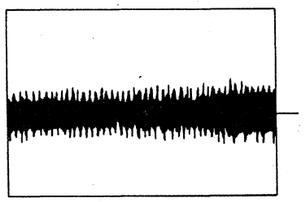
● Incorrect Example (fundamental wave appears)

low tracking gain



VOLT/DIV : 0.5V
TIME/DIV : 2mS

high tracking gain
(higher fundamental wave than for low gain)



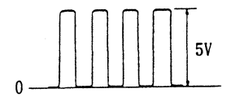
VOLT/DIV : 0.5V
TIME/DIV : 2mS

PRACTICAL SERVICE FIGURE

Output level :	2.0 ± 0.2V	(TR-2, 1kHz)
Frequency response :	0 ± 0.7dB	(20Hz, 100Hz, 10kHz, 20kHz) (TR-3, 4, 5, 6)

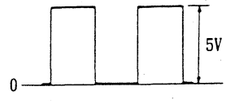
WAVE FORM

CXD1135
C4M
IC302㊿



2V/DIV
0.2μS/DIV
f = 4.2336MHz

CXD1135
WDCK
IC302㊾

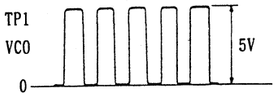


2V/DIV
2μS/DIV
f = 88.2kHz

CXD1135
XTAO
IC302㊿

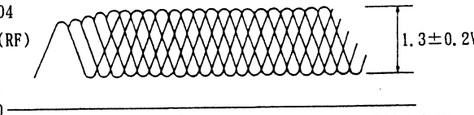
2V/DIV
0.2μS/DIV
f = 16.9344MHz

CXD1135
PLCK
IC302㊿



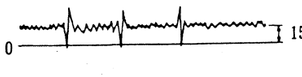
2V/DIV
0.2μS/DIV
f = 4.32MHz

IC304
TP5(RF)



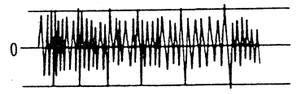
500mV/DIV
0.5μS/DIV

IC304
TP7(FE)
(at PLAY)



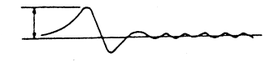
200mV/DIV
2mS/DIV

IC304
TP9(TE)
(at PLAY)

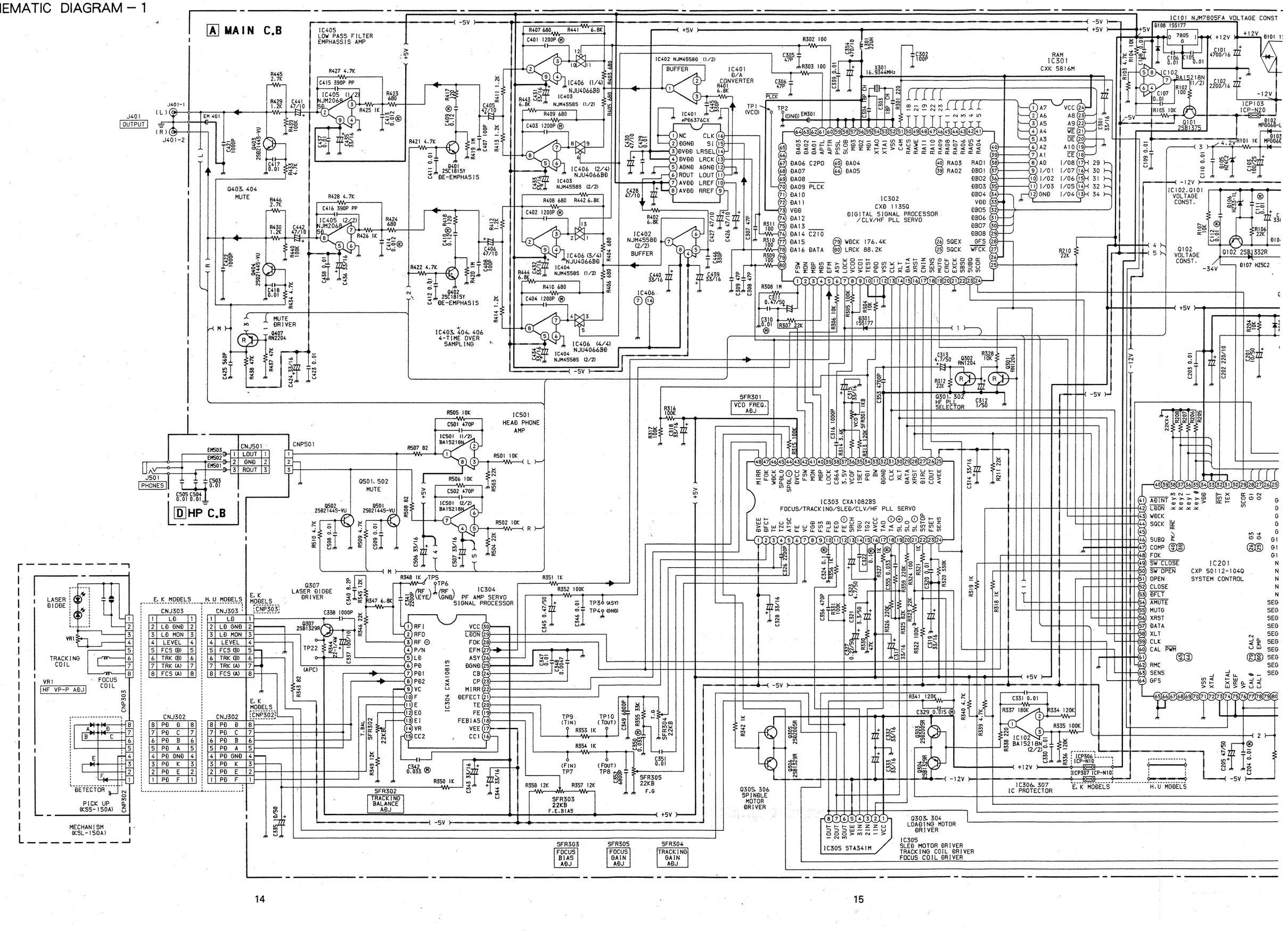


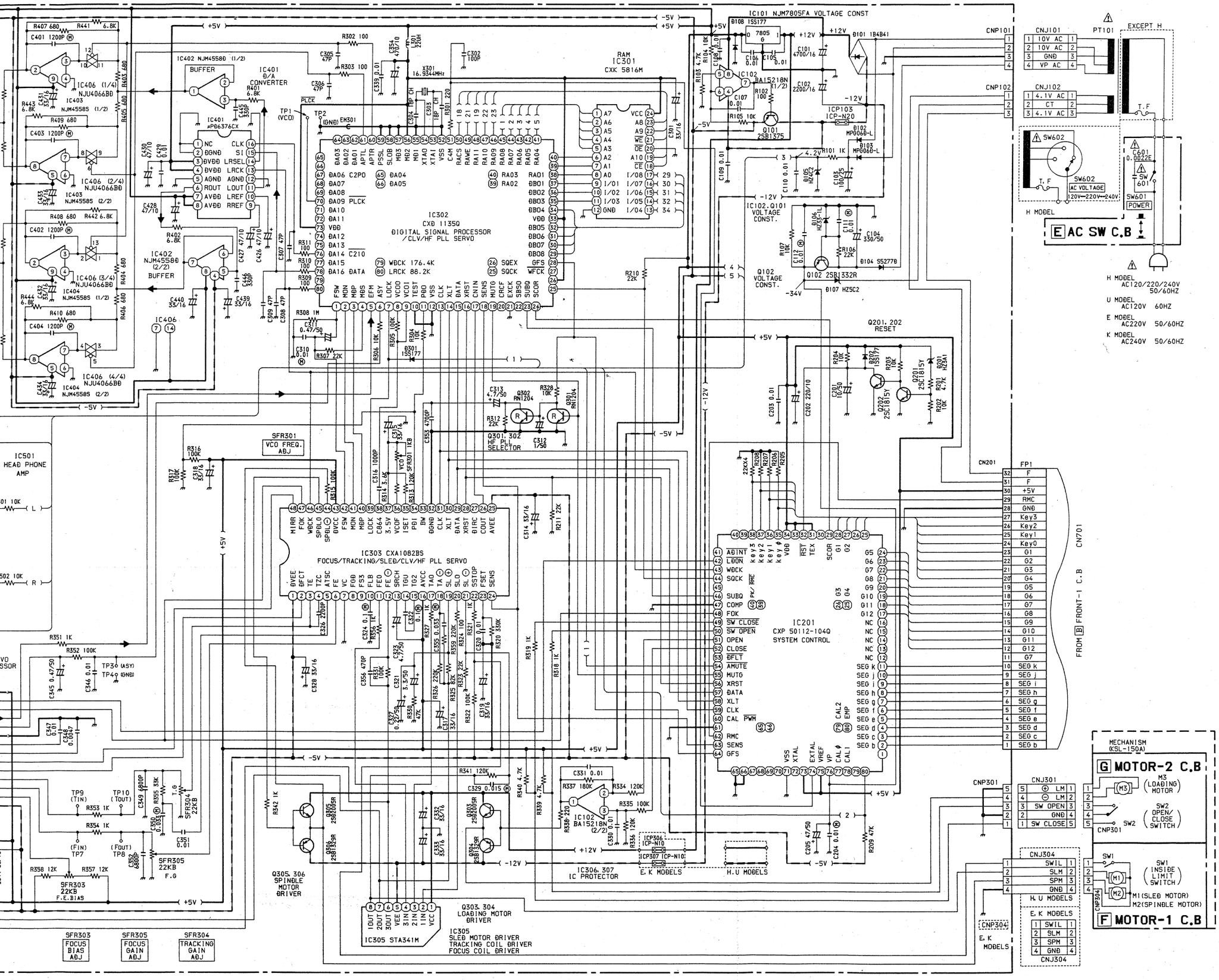
500mV/DIV
1mS/DIV

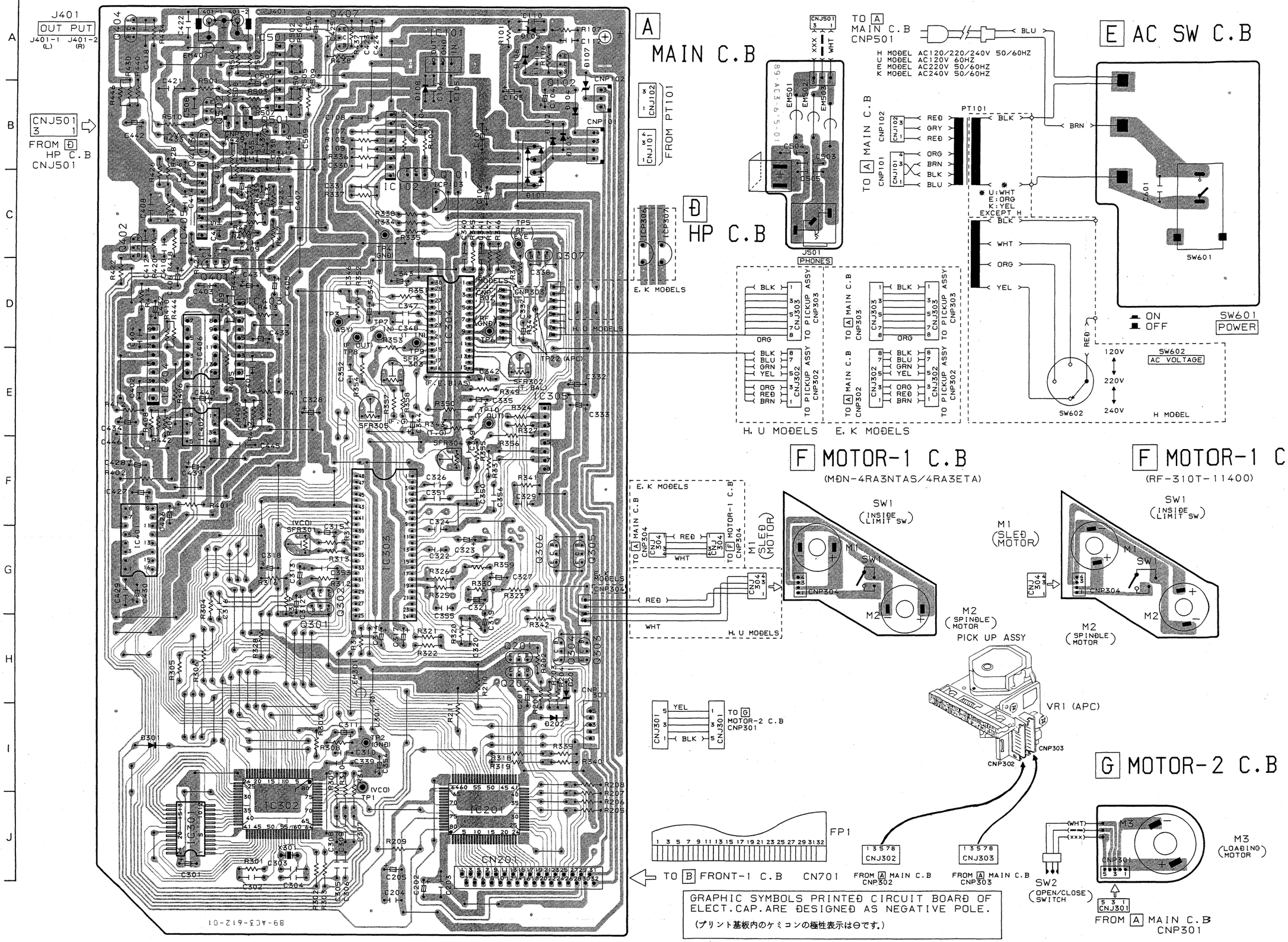
TP7(FE)
(at FOCUS SEARCH)
≒3(V)



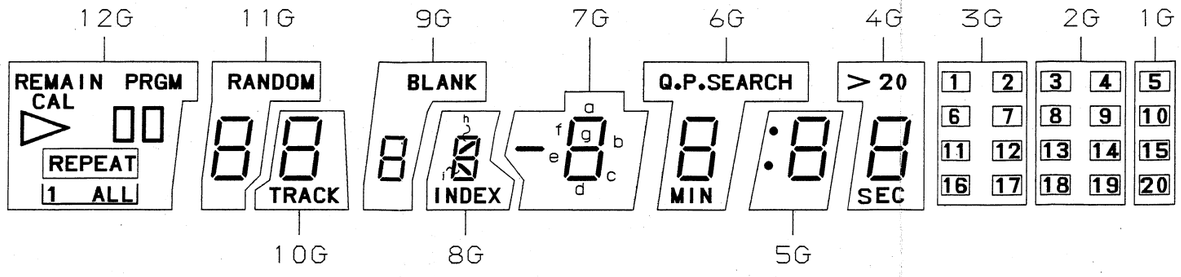
SCHEMATIC DIAGRAM – 1




IC101 NJM78Ø5FA VOLTAGE CONST
IC402 NJM4558Ð (1/2)
BUFFER
IC401 Ð/A CONVERTER
IC406 (1/4)
NJU4066BÐ
IC403 NJM4558S (1/2)
IC406 (2/4)
NJU4066BÐ
IC403 NJM4558S (2/2)
IC402 NJM4558Ð (2/2)
BUFFER
IC406 (3/4)
NJU4066BÐ
IC404 NJM4558S (1/2)
IC406 (4/4)
NJU4066BÐ
IC404 NJM4558S (2/2)
IC401 μPÐ6376CX
IC302 CXÐ 1135Q ÐIGITAL SIGNAL PROCESSOR /CLV/HF PLL SERVO
RAM IC301 CXK 5816M
IC303 CXA1082BS FOCUS/TRACKING/SLED/CLV/HF PLL SERVO
IC201 CXP 50112-104Q SYSTEM CONTROL
IC102 BA15218N (1/2)
IC102 BA15218N (2/2)
IC102.Q101 VOLTAGE CONST.
Q102 VOLTAGE CONST.
Q201.202 RESET
Q301.302 HF PLL SELECTOR
Q303.304 LOADING MOTOR ÐRIVER
Q305.306 SPINÐLE MOTOR ÐRIVER
IC305 STA341M SLEÐ MOTOR ÐRIVER TRACKING COIL ÐRIVER FOCUS COIL ÐRIVER
IC306.307 IC PROTECTOR
ICP103 ICP-N20
ICP306 ICP-N10
ICP307 ICP-N10
E.K MOÐELS
H.U MOÐELS
SFR301 VCO FREQ. AÐJ
SFR303 22KB F.E.BIAS
SFR305 22KB F.G
SFR304 22KB
SFR303 FOCUS BIAS AÐJ
SFR305 FOCUS GAIN AÐJ
SFR304 TRACKING GAIN AÐJ
IC501 HEAÐ PHONE AMP
CNP101
CNP102
CNJ101
CNJ102
PT101
EXCEPT H
SW602
SW602 AC VOLTAGE 120V 220V 240V
SW601 POWER
H MOÐEL
E AC SW C.B
H MOÐEL AC120/220/240V 50/60HZ
U MOÐEL AC120V 60HZ
E MOÐEL AC220V 50/60HZ
K MOÐEL AC240V 50/60HZ
CN201
FP1
CN701
FROM B FRONT-1 C.B
CNP301
CNJ301
CNJ304
MECHANISM (KSL-150A)
G MOTOR-2 C.B
M3 (LOAÐING MOTOR)
SW2 (OPEN/CLOSE SWITCH)
SW1 (INSIÐE LIMIT SWITCH)
M1(SLEÐ MOTOR)
M2(SPINÐLE MOTOR)
F MOTOR-1 C.B
CNP304
E.K MOÐELS
H.U MOÐELS

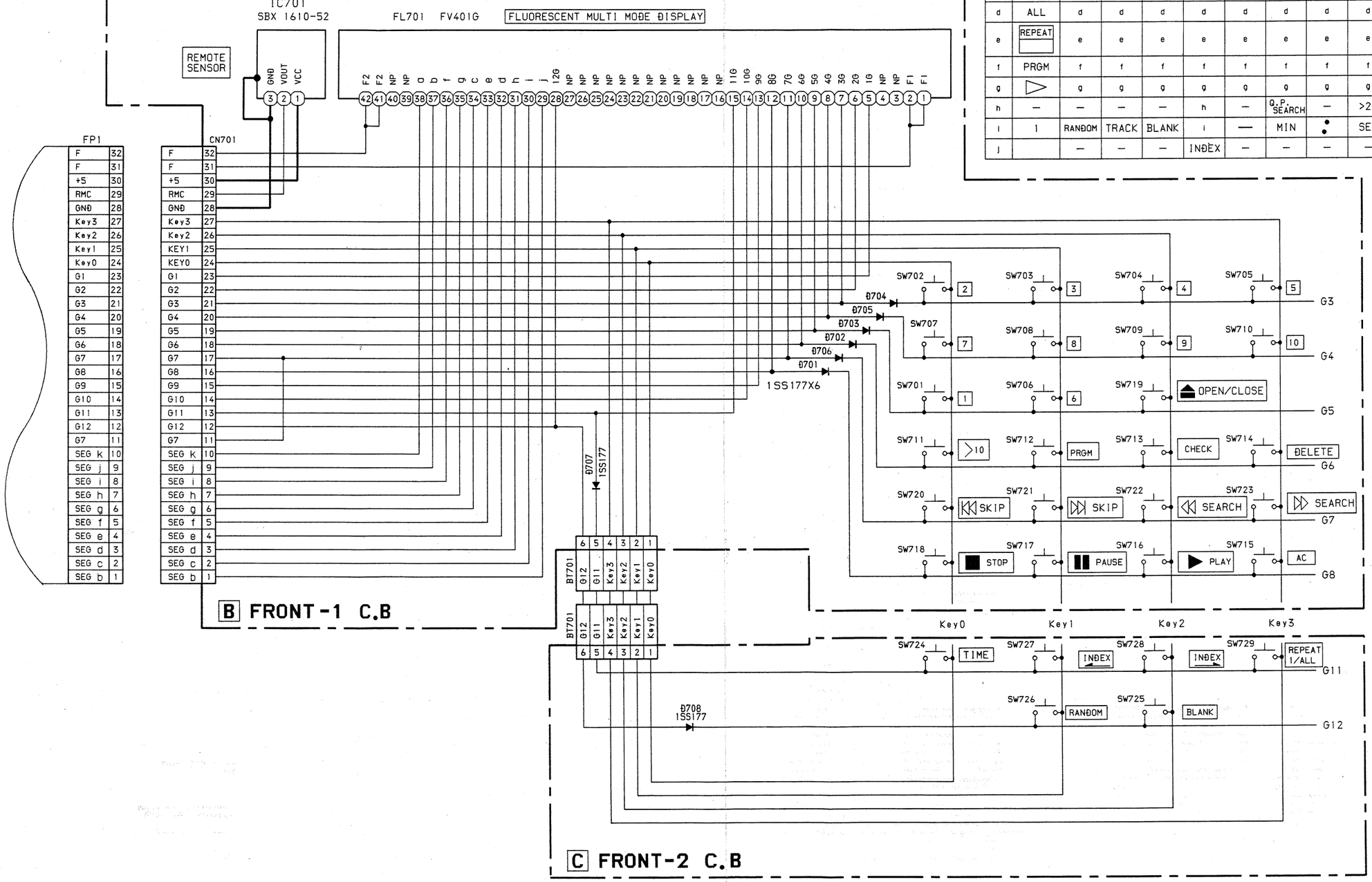

A MAIN C.B
Đ HP C.B
E AC SW C.B
F MOTOR-1 C.B
(MĐN-4RA3NTAS/4RA3ETA)
F MOTOR-1 C.B
(RF-310T-11400)
G MOTOR-2 C.B
J401 OUT PUT
J401-1 (L) J401-2 (R)
CNJ501 3 1 FROM Đ HP C.B CNJ501
TO A MAIN C.B CNP501
H MODEL AC120/220/240V 50/60HZ
U MODEL AC120V 60HZ
E MODEL AC220V 50/60HZ
K MODEL AC240V 50/60HZ
J501 PHONES
E, K MODELS
H, U MODELS
SW601 POWER
ON
OFF
SW602 AC VOLTAGE
120V
220V
240V
H MODEL
* U:WHT E:ORG K:YEL EXCEPT H
SW1 (INSIDE LIMIT SW)
M1 (SLED MOTOR)
M2 (SPINDLE MOTOR)
PICK UP ASSY
VR1 (APC)
FP1
SW2 (OPEN/CLOSE SWITCH)
M3 (LOADING MOTOR)
TO B FRONT-1 C.B CN701
FROM A MAIN C.B CNP302
FROM A MAIN C.B CNP303
FROM A MAIN C.B CNP301
TO G MOTOR-2 C.B CNP301
GRAPHIC SYMBOLS PRINTED PRINTED CIRCUIT BOARD OF ELECT.CAP. ARE DESIGNED AS NEGATIVE POLE.
(プリント基板内のケミコンの極性表示はθです.)
89-AC3-612-01

SCHEMATIC DIAGRAM – 2

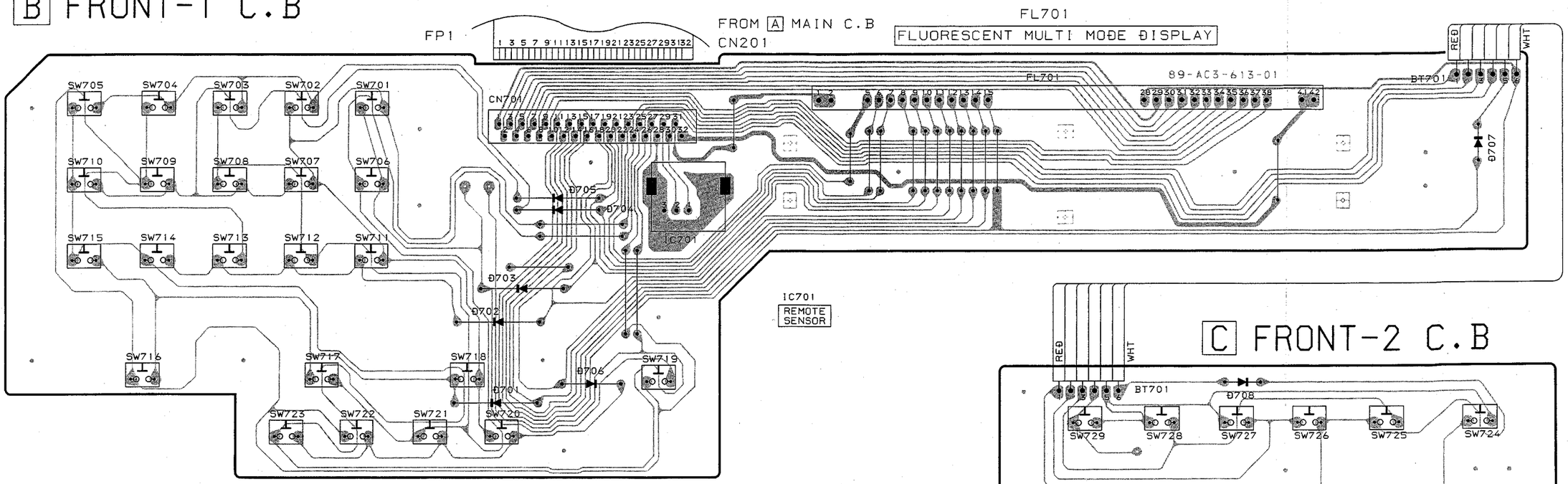


ANODE CONNECTION

	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
a	REMAIN	a	a	a	a	a	a	a	a	1	3	5
b	CAL	b	b	b	b	b	b	b	b	6	8	10
c	□□	c	c	c	c	c	c	c	c	11	13	15
d	ALL	d	d	d	d	d	d	d	d	16	18	20
e	REPEAT	e	e	e	e	e	e	e	e	12	14	–
f	PRGM	f	f	f	f	f	f	f	f	2	4	–
g	▷	g	g	g	g	g	g	g	g	7	9	–
h	–	–	–	–	h	–	Q.P. SEARCH	–	>20	–	–	–
i	1	RANDOM	TRACK	BLANK	i	—	MIN	:	SEC	17	19	–
j		–	–	–	INDEX	–	–	–	–	–	–	–

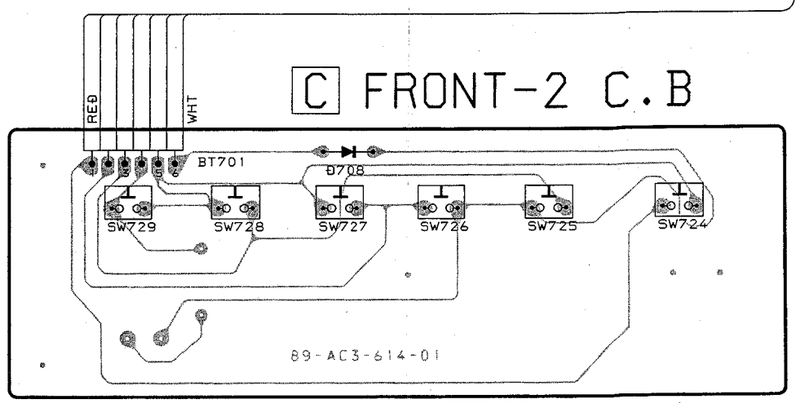


B FRONT-1 C.B



IC701
REMOTE SENSOR

C FRONT-2 C.B



SW705 [5]
SW704 [4]
SW703 [3]
SW702 [2]
SW701 [1]

SW710 [10]
SW709 [9]
SW708 [8]
SW707 [7]
SW706 [6]

SW715 [AC]
SW714 [DELETE]
SW713 [CHECK]
SW712 [PRGM]
SW711 [>10]

SW716 [PLAY ▷]
SW717 [PAUSE ❚❚]
SW718 [STOP ■]
SW719 [OPEN/CLOSE ⏏]

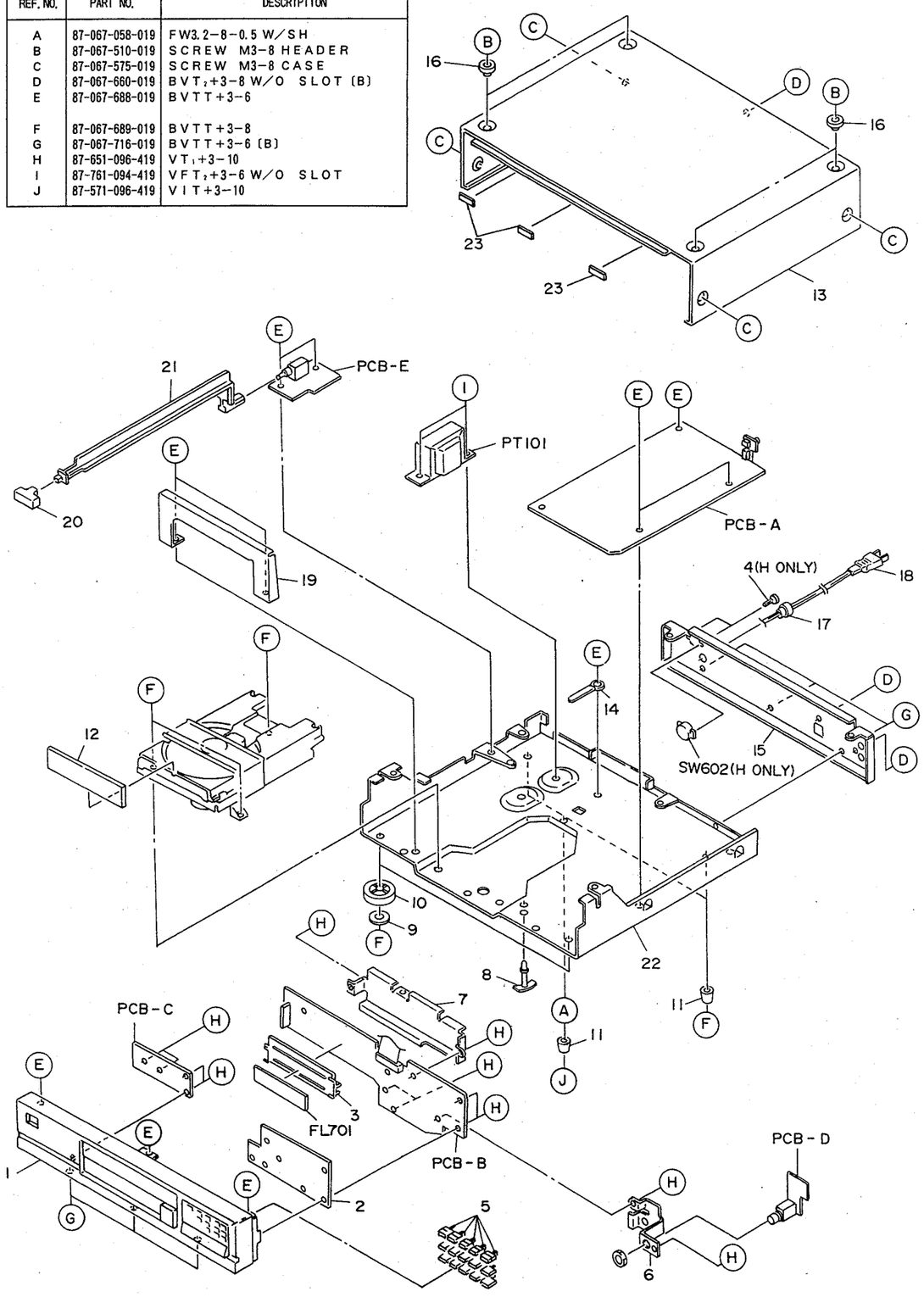
SW723 SW722 SEARCH ◄◄ ►►
SW721 SW720 SKIP |◄◄ ►►|

SW729 [REPEAT 1/ALL]
SW728 INDEX [→]
SW727 INDEX [←]
SW726 [RANDOM]
SW725 [BLANK]
SW724 [TIME]

GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT.CAP. ARE DESIGNED AS NEGATIVE POLE.
(プリント基板内のケミコンの極性表示は⊖です。)

EXPLODED VIEW – 1

REF. NO.	PART NO.	DESCRIPTION
A	87-067-058-019	FW3.2-8-0.5 W/SH
B	87-067-510-019	SCREW M3-8 HEADER
C	87-067-575-019	SCREW M3-8 CASE
D	87-067-660-019	BVT$_2$+3-8 W/O SLOT (B)
E	87-067-688-019	BVTT+3-6
F	87-067-689-019	BVTT+3-8
G	87-067-716-019	BVTT+3-6 (B)
H	87-651-096-419	VT$_1$+3-10
I	87-761-094-419	VFT$_2$+3-6 W/O SLOT
J	87-571-096-419	VIT+3-10

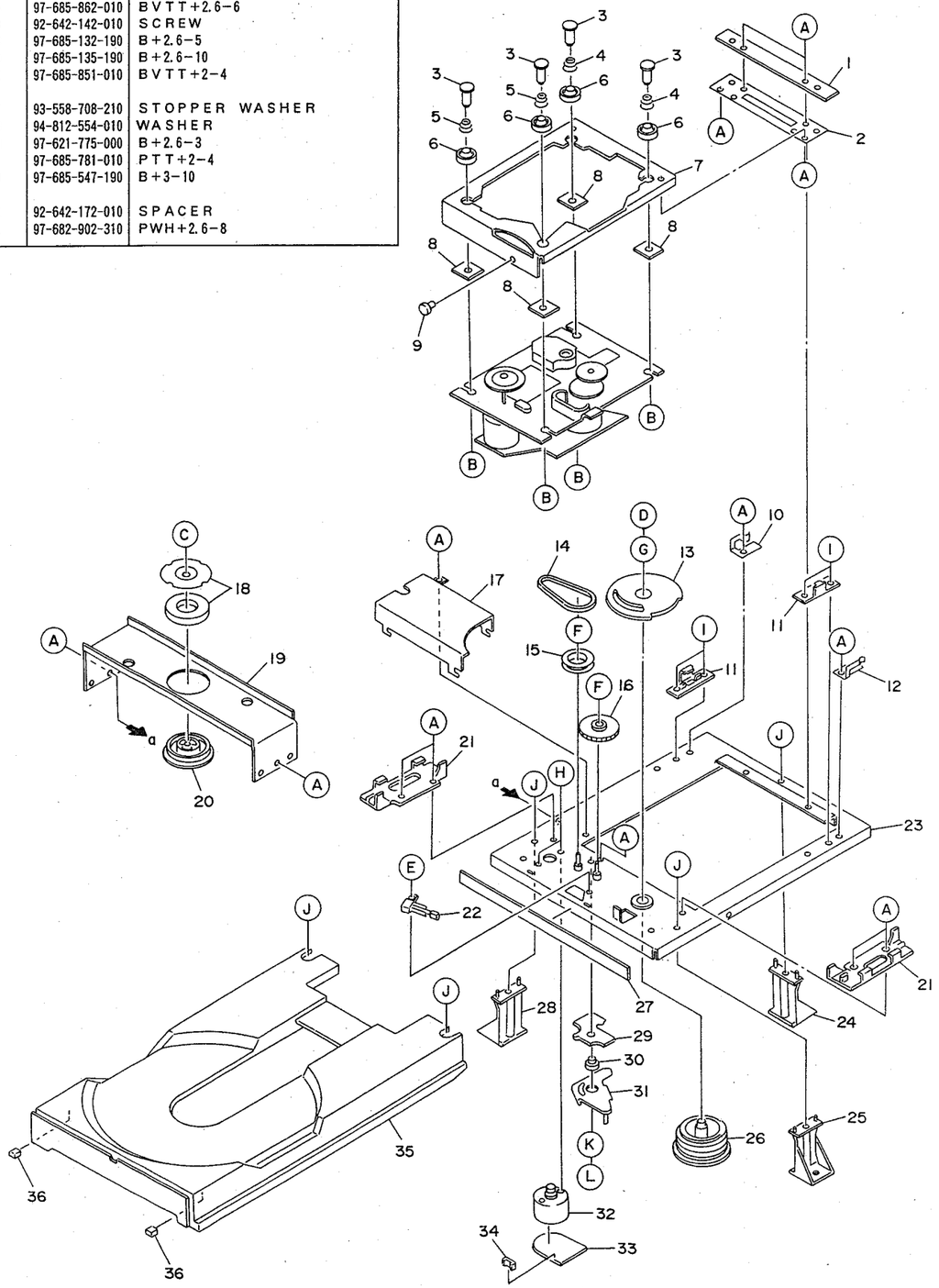


MECHANICAL PARTS LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1-1	★09-057-062-010	FRONT CABINET ASSY (H,E,K)	※	1
	1-1	★09-057-063-010	FRONT CABINET ASSY (U)	※	1
	1-2	★89-AC1-206-019	CUSHION,70-150-1		1
	1-3	★89-AC2-201-019	GUIDE,FL		1
	1-4	★87-084-098-019	RIVET,NYLON3-5.5 DIA5.5 (H)		2
	1-5	★84-761-014-019	BUTTON,PUSH 10KEY		15
	1-6	★89-AC1-203-019	HOLDER,HP (H,U)		1
	1-6	★89-AC1-210-018	HOLDER,HP (E,K)		1
	1-7	★89-AC1-202-019	HOLDER,FRONT (H,U)		1
	1-7	★89-AC1-209-018	HOLDER,FRONT (E,K)		1
	1-8	★87-064-109-010	HOLDER,P.C.B LSR-12R		1
	1-9	★84-761-008-019	CUSHION,FOOT		2
	1-10	★84-738-022-010	FOOT		2
	1-11	★87-085-208-010	FOOT ASSY		3
	1-12	★89-AC1-002-019	PANEL,TRAY		1
	1-13	★84-761-006-019	CABINET,STEEL (H,U)		1
	1-13	★89-AC1-029-018	CABINET,STEEL (E,K)		1
	1-14	---	BINDER,WIRE		1
	1-15	★89-AC3-005-019	PANEL,REAR (H)	※	1
	1-15	★89-AC3-012-019	PANEL,REAR (HJ)	※	1
	1-15	★89-AC3-003-019	PANEL,REAR (U)	※	1
	1-15	★89-AC3-013-019	PANEL,REAR (E)	※	1
	1-15	★89-AC3-014-019	PANEL,REAR (K)	※	1
	1-16	★84-738-018-010	RING,TOP		4
	1-17	★87-085-185-010	BUSHING,AC CORD (H,E,K)		1
	1-17	★87-085-184-010	BUSHING,AC CORD (U)		1
	1-18	★82-187-797-019	CORD,AC (H)		1
	1-18	★87-034-583-019	CORD,AC (U)		1
	1-18	★87-034-781-018	CORD,AC (E)		1
	1-18	★87-034-592-018	CORD,AC (K)		1
	1-19	★89-AC1-204-019	HOLDER,CABINET (H,U)		1
	1-19	★89-AC1-211-018	HOLDER,CABINET (E,K)		1
	1-20	★84-761-024-019	BUTTON,PUSH POWER		1
	1-21	★84-761-207-019	ROD		1
	1-22	---	CHASSIS,AMP		1
	1-23	★84-736-229-010	HIMELON,20-15-0.5		3

EXPLODED VIEW – 2

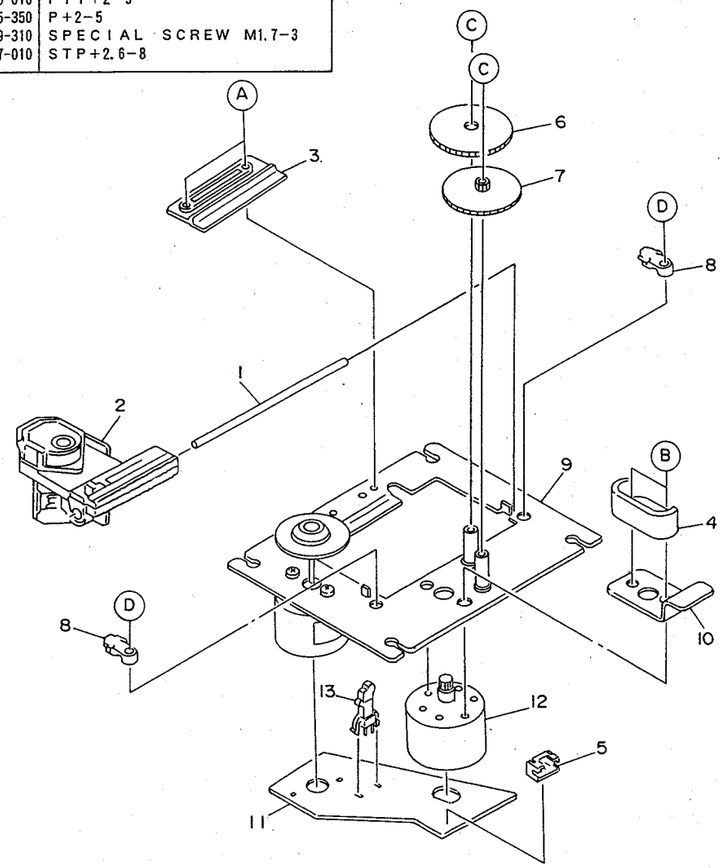
REF. NO.	PART NO.	DESCRIPTION
A	97-685-862-010	BVTT+2.6-6
B	92-642-142-010	SCREW
C	97-685-132-190	B+2.6-5
D	97-685-135-190	B+2.6-10
E	97-685-851-010	BVTT+2-4
F	93-558-708-210	STOPPER WASHER
G	94-812-554-010	WASHER
H	97-621-775-000	B+2.6-3
I	97-685-781-010	PTT+2-4
J	97-685-547-190	B+3-10
K	92-642-172-010	SPACER
L	97-682-902-310	PWH+2.6-8



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	2-1	★92-642-170-010	HOLDER,HINGE		1
	2-2	★92-642-164-010	SPRING,HINGE		1
	2-3	★92-642-160-010	SHAFT,SPRING T		4
	2-4	★92-642-137-010	SPRING,COIL B		2
	2-5	★92-642-139-010	SPRING,COIL A		2
	2-6	★92-642-158-010	FOOT,C		4
	2-7	★9X-264-210-510	SPRING SUB CHASSIS ASSY		1
	2-8	★92-642-159-010	PLATE,SPRING T		4
	2-9	★92-642-169-010	ROLLER		1
	2-10	★92-642-147-010	GUIDE,TRAY L		1
	2-11	★92-042-102-030	HOLDER,TRAY		2
	2-12	★92-642-146-010	GUIDE,TRAY R		1
	2-13	★92-642-154-020	GEAR,SPRING DRIVE		1
	2-14	93-053-307-010	BELT,LM		1
	2-15	★94-913-731-010	PULLEY,ROADING		1
	2-16	★92-642-148-010	GEAR,SPRING RELAY		1
	2-17	★92-642-149-010	COVER,SPRING GEAR		1
	2-18	9X-264-210-810	MAGNET ASSY		1
	2-19	★92-642-165-010	CHASSIS,CHUCK		1
	2-20	★92-642-181-010	PULLEY,CHUCKING		1
	2-21	★92-642-161-010	HOLDER,FRONT TRAY		2
	2-22	★91-572-052-110	SWITCH,LEAF (OPEN/CLOSE)		1
	2-23	★9X-264-210-610	SPRING MAIN CHASSIS ASSY		1
	2-24	★92-642-512-010	HOLDER,MD BOSS REAR		1
	2-25	★92-642-510-010	HOLDER,MD BOSS		1
	2-26	★92-642-153-010	CAM,SPRING CONTROL		1
	2-27	★92-642-157-030	TAPE,FRONT		1
	2-28	★92-642-511-010	HOLDER,MD BOSS L		1
	2-29	★92-642-173-010	PLATE,RING		1
	2-30	★92-642-133-020	BOSS		1
	2-31	★9X-264-210-910	STOPPER RING ASSY		1
	2-32	9X-264-133-610	MOTOR ASSY (LOADING)		1
	2-33	★91-624-793-210	CD MOTOR 2 C.B		1
	2-34	★91-564-721-110	CONNECTOR,PIN 5P		1
	2-35	★92-642-156-010	TRAY		1
	2-36	★92-642-125-010	DAMPER		2

EXPLODED VIEW – 3

REF. NO.	PART NO.	DESCRIPTION
A	92-641-386-010	PTT+2-5
B	97-621-255-350	P+2-5
C	93-303-809-310	SPECIAL SCREW M1.7-3
D	92-641-447-010	STP+2.6-8



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	3-1	★94-910-431-010	SHAFT,SLIDE		1
	3-2	98-848-046-510	PICK UP (KSS-150AHRP)		1
	3-3	★92-641-443-020	HOLDER,SLIDE		1
	3-4	★92-641-434-010	COVER,GEAR		1
	3-5	★92-564-720-110	CONNECTOR,PIN		1
	3-6	92-641-404-020	GEAR,A		1
	3-7	★92-641-403-050	GEAR,B		1
	3-8	★92-641-448-020	CLAMP,SHAFT		2
	※ 3-9	9X-264-133-710	SP MOTOR ASSY (W/CHASSIS,T.T)(DISC)(RF-310T-11400)		1
	※ 3-9	9X-264-134-810	SP MOTOR ASSY (W/CHASSIS,T.T)(DISC)(MDN-4RA3NTAS)		1
	3-10	★92-641-371-010	STOPPER		1
	※ 3-11	★91-625-848-110	CD MOTOR 1 C.B (RF-310T-11400)		1
	※ 3-11	★91-628-263-110	CD MOTOR 1 C.B (MDN-4RA3NTAS/4RA3ETA)		1
	※ 3-12	9X-264-077-010	SLED MOTOR GEAR ASSY (SLED)(RF-310T-11400)		1
	※ 3-12	9X-264-134-410	SLED MOTOR GEAR ASSY (SLED)(MDN-4RA3ETA)		1
	3-13	91-572-053-110	SWITCH,LEAF (LIMIT)		1

※Caution
Two Types of the spindle (DISC) motor and sled motor are used, but they are not compatible.
Check the part numbers (MDN ••••, RF ••••) on the labels of motors and replace motors with the same one.

■ ACCESSORIES/PACKAGE LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1	★ 89-AC3-904-019	INSTRUCTION BOOKLET,EX (H,U)	※	1
	2	★ 89-AC3-905-018	INSTRUCTION BOOKLET,EX (E,K)	※	1
	3	★ 87-034-773-010	CORD, PIN R-237W-1M		1
	4	★ 87-042-062-010	PLUG,ADAPTOR S-I6115 (H)		1
	5	★ 89-AC3-952-019	REMOTE UNIT, RC-C103YB	※	1